



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,305	11/30/2001	Michael R. Sogard	PA0244US/11269.27	8919

7590 03/14/2003

The Law Office of Steven G. Roeder
5560 Chelsea Avenue
La Jolla, CA 92037

EXAMINER

GURZO, PAUL M

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .		Applicant(s)	
	10/000,305		SOGARD, MICHAEL R.	
	Examiner		Art Unit	
	Paul Gurzo		2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-24, 28-40, 44-51 and 55-58 is/are rejected.
- 7) ☒ Claim(s) 9-11, 25-27, 41-43 and 52-54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "12" and "102" have both been used to designate magnetic shunt assembly. There are numerous more instances of this occurring with different reference characters throughout the figures. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 24 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 23. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2881

Claims 1-8, 12-24, 28-40, 44-51, and 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al (722), and further in view of Shamouilian et al. (358) or Fu (576).

Regarding claims 1, 16-18, 32-34, 45-47, and 56-58, 722 teaches an optical assembly (col. 1, lines 14-17 and col. 3, lines 43-49), a gap near the optical assembly, a stage (4) that is located in the gap, and a mover assembly (14) that moves the stage in the gap (col. 4, lines 4-42 and Fig. 3). 722 also teaches that the motor is enclosed in a magnetic shield means to have the electron beam be free from the magnetic fields in order to prevent the magnetic fields from affecting the electron beam. This makes it possible to perform the desired recording of information with high accuracy (col. 2, line 65 - col. 3, line 2). This magnetic shield works in much the same way as a magnetic shunt in that it provides a path to direct the magnetic field from the gap (See Fig. 4).

722 does not explicitly mention the use of such a magnetic shunt, but 358 and 576 teach a magnetic shunt that attracts the magnetic flux, causing depletion of the magnetic flux above those portions of the substrate, and provides an alternate path for the flux (See 358, col. 4, lines 25-33 and 576, col. 4, lines 48-53). They both teach this magnetic shunt used in conjunction with semiconductor fabrication (See 358, col. 1, line 9, and 576, col. 1, lines 12-18). 358 also teaches the magnetic shunt comprises ferromagnetic material (col. 4, lines 29-32), which has the same qualities as a magnetic permeable material. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a magnetic shield as the magnetic shield means taught by 722 because the magnetic shield means and the magnetic shunt work in the same way because both direct the magnetic field away from the substrate resulting in a more uniform processing with higher accuracy.

Regarding claims 2-8, 19-24, 35-40, and 48-51, all of the prior art is concerned with redirecting the magnetic field as taught above and will obviously redirect the claimed percentage. Further, the positioning and design of the magnetic shunt is considered obvious to the prior art because the applicant has provided no evidence that differing designs will redirect in a more efficient manner.

Regarding claims 12-15, 28-31, and 55, Kojima et al. depict in Fig. 3 and 4 and wall (11) that has a magnetic redirect means positioned on it, and well as an illumination source (1). Further, 358 teaches a magnetic shunt (34) that is coupled to a container that is positioned along a wall (74) (Fig. 2c). This shunt is capable of not moving relative to the optical assembly and of being secured in the desired manner.

Regarding claim 44, it is well known in the art that an exposure apparatus works by illuminating a first object (mask) to form an image on a second material (reticle). Both objects must be positioned in a manner that they are in a gap in the beam so that the beam will efficiently etch.

Allowable Subject Matter

Claims 9-11, 25-27, 41-43, and 52-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following teach the use of a magnetic shunt for redirecting a magnetic field:

Rouberoi et al. (4,779,046)

Application/Control Number: 10/000,305
Art Unit: 2881

Page 5


Collins et al. (6,068,784)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (703) 306-0532. The examiner can normally be reached on M-Thurs. 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on (703) 308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PMG
March 5, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800